Final Report:
Transportation Scholar Accomplishments for the Jamaica Bay Unit of Gateway National Recreation Area

Extended Term: April 26, 2003 – June 20, 2003

Prepared for:

National Park Foundation

Jamaica Bay Unit
Gateway National Recreation Area
National Park Service

Prepared by:

Alixandra Demers, M.S.E., E.I.T.
Proud Partner Transportation Scholar

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ACRONYMS AND ABBREVIATIONS

ADA	Americans with Disabilities Act and its amendments
CY	Calendar Year (January to December)
BPD, NSD, WRD	The 3 districts of Jamaica Bay Unit: Breezy Point D., North Shore D., Wildlife Refuge D.
FLH	Federal Lands Highway
FMSS	Facility Management Software System
FY	Fiscal Year (October to September)
Gateway NRA	Gateway National Recreation Area
GMP	Gateway NRA's General Management Plan dated August 1979
H.A.R.P.	Historic Airplane Restoration Project
JBU, SHU, SIU	The 3 units of Gateway NRA: Jamaica Bay Unit, Sandy Hook Unit, Staten Island Unit
MUTCD	Manual of Uniform Traffic Control Devices
NJ	New Jersey
NPF	National Park Foundation
NPS	National Park Service
NY	New York
N.Y.C., NYC	New York City
NYC DOT	New York City Department of Transportation
NYS DOT	New York State Department of Transportation
NYPD	New York City Police Department
PMIS	Project Management Information System
R ##	Runway ##
RAA, RTC	Rockaway Artists Alliance, Rockaway Theatre Company
RGG	Rockaway Gateway Greenway
RPA	Regional Planning Association
RVC	Ryan Visitor Center
SOP	Standard Operating Procedure
T - ##	Taxiway ##
USPP	United States Park Police

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Gateway NRA – Jamaica Bay Unit

EXECUTIVE SUMMARY

This report is a summary of work that has been completed during the extended term, April 26, 2003 to June 20, 2003. Please refer to the earlier final report for complete descriptions of all the projects and further products and milestones.

Scholarship Overview

One of five Proud Partner Transportation Scholarships for the 2002 award cycle was awarded to the author, Alixandra Demers, through the National Park Foundation. The scholar was matched with Gateway National Recreation Area, one of the seven national parks selected, which submitted a proposal also for the 2002 award cycle. The term of the original scholarship was 8 months from August 26, 2002 to April 25, 2003. Based on performance and additional projects, the scholarship was been extended through June 2003.

Park Overview

Gateway National Recreation Area (Gateway NRA) is part of the National Parks of New York Harbor that also include Liberty Island, Ellis Island, and Governors Island. Gateway NRA is the largest of the parks, with more than 26,000 acres of land and water within its borders. The park is divided into three units for administrative and programming purposes: the Jamaica Bay Unit, the Staten Island Unit, and the Sandy Hook Unit. The Jamaica Bay Unit includes lands in both the boroughs of Brooklyn and Queens, New York. The Staten Island Unit is wholly located in Staten Island, NY and the Sandy Hook Unit is in New Jersey.

The projects discussed herein were primarily for the Jamaica Bay Unit (JBU). It is comprised of the following park areas:

In Brooklyn:
- Floyd Bennett Field
- Bergen Beach
- Concessionaire - tennis, driving range, mini golf, batting cages
- Concessionaire - marina
- Concessionaire - horseback riding
- Plumb Beach
- Canarsie Pier

On the Rockaways:
- Jacob Riis Park
- Fort Tilden
- Riis Landing
- Private Club – Silver Gull
- Private Club – Breezy Point Surf Club
- Breezy Point
- Concessionaire at Jacob Riis Park – executive pitch & putt golf

In Queens:
- Frank Charles Park
- Hamilton Park
- The Jamaica Bay Wildlife Refuge
- Spring Creek

As is evident from the mix of uses and disconnected nature of the parklands, Gateway NRA is not a typical national park. Instead, it is woven into the surrounding urban setting. Because of the spread out nature of the park, there were a number of transportation-related issues as discussed in the next section.

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Task Overview

Three general transportation tasks were outlined at the outset of this scholarship term:

- Develop plans for on-site transportation improvements,
- Assist in off-site transportation/transit improvement projects, and
- Downsize and green the Jamaica Bay Unit's fleet.

Within each task, one or more specific projects were assigned that are discussed in detail in this report.

OVERALL OBJECTIVES

- Create workable circulation plans for four areas of the JBU: Floyd Bennett Field, Jacob Riis Park, Fort Tilden, and Riis Landing.
- Develop ideas for improving access to the parklands and see these through to implementation.
- Improve the interconnectivity of Jamaica Bay Unit in part by participation in the Ferry System Implementation.
- Form a fleet management task force for the Jamaica Bay Unit that decides upon a fleet management plan and guides the downsizing and greening process. Task force actions include: assessment of the current fleet, creation of Standard Operating Procedures (to improve tracking, record keeping, and decision making), organizing staff training workshops, and developing and running focus groups to assess green product implementation and solve product problems.
- Assist in negotiating TH!NK *neighbor* vehicle delivery and coordinate their implementation.
- Gateway Green Team participation – transportation subcommittee (Green Team Plan elements – VMTs, TIAs, Fleet Mgmt), Climate Friendly Parks Initiative (emissions inventory JBU point person, workshop organizing committee).
- Use my training and background to inform and assist Gateway personnel through (1) personnel outreach (like the signs I post on my cubicle to inform passers-by of my work and meetings/workshops, (2) personnel training (like when I met with Ranger Krause once a week to train her on design and operation of an Access database), and (3) miscellaneous civil engineering work.

This scholarship was extended for two months so that I could complete the circulation plans and wrap up other projects, such as the sign inventory and plan, fleet management analysis and implementation of the TH!NK vehicle program as the visitor season gets underway in May and June. Specifically, the scope of extended term work included:

- Finishing a sign inventory, existing sign plan, and proposed sign plan for Riis Landing
- Finishing existing and proposed sign plans for Jacob Riis Park and Fort Tilden
- Furthering the Floyd Bennett Field circulation plans to Phase 3.
- Transferring the Sign Inventory Database she designed to appropriate Unit personnel
- Transferring the Fleet Management Database she designed to appropriate Unit personnel with a Work Plan outlined that details how the database can be further extended to fully support management of the fleet

- Guiding the Fleet Management Task Force through a series of site visit interviews and providing them with a Work Plan and Document Outline that will aid in their completion of a Draft Fleet Management Manual
- Transferring facilitation of the Fleet Management Task Force to Unit personnel
- Organizing the 6-month TH!NK vehicle data collection program for the NPF
- Presenting at the 2003 Proud Partner Transportation Interpreter Program Orientation & Workshop

All of the above scoped tasks were completed as per the Memorandum of Understanding.

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Gateway NRA – Jamaica Bay Unit

PROJECT STATISTICS

Table 1 Final Summary Statistics of Scholar's Projects (Updated as of June 20, 2003)

PARK AREA	PEOPLE SERVED ANNUALLY	OUTSIDE SUPPORT	TOTAL PRODUCTS
On-site Transportation Improvements			
Floyd Bennett Field Circulation Plan	* 1,609,000	1 FLH Transportation Study scoped. 2 FLH Design Projects scoped, estimated cost: $900,000.	1 Database 11 Documents/Plans 6 Concepts 5 Sign Designs
Fort Tilden Circulation Plan	* 351,000	1 FLH Design Project scoped, estimated cost: $325,000.	4 Sign Designs 1 Existing Inventory 1 Existing Sign Plan
Jacob Riis Park Circulation Plan	* 902,000	1 FLH Transportation Study scoped. 1 FLH Design Project scoped, estimated cost: $200,000.	1 Existing Inventory 4 Rotary Concepts 1 Proposed Plan 1 Report
Riis Landing Circulation Plan	(projected) 30,000	1 FLH Transportation Study.	1 Document
Off-site Transportation/Transit Improvements			
Metro Area Access			None yet.
Bus Shelters at Floyd Bennett Field			Negotiating.
Ferry System Implementation		Port Authority of NY/NJ applying for $1 Million in FEMA funding for Floyd Bennett Field-Battery Park ferry service.	N/a
Fleet Assessment and Management			
Jamaica Bay Unit Fleet Management	** 230		1 Database, 11 Documents
TH!NK *neighbor* Vehicle Program	*** 550	Ford Motor Company donation of 53 vehicles (approximate value = $300,000)	3
Smaller Projects			
Federal Lands Highway Project Scoping	* 4,129,100	(see "FLH" items listed above)	N/a
Other Vehicle Donations	*** 550		2 Documents
Presentation to 2003 Transportation Interpreters	36	3 of the 4 Transportation Scholars relayed me their project information.	1 Presentation of 55 slides & 12 posters!
Civil & Transportation Engineering Project for JBU	*** 550		1 Document, Projects
Gateway Green Team, Jamaica Bay Unit Green Team	* 10,201,300		2 Projects
Archery Shade Structure Design	* 1,609,000	Negotiations being held with resident fire department to build the structure with the Park's materials.	1 Design completed 1 Materials Estimate completed
Program Information & Visitor Statistics Database	12 JBU Employees		1 Master Database, with 5 replications 2 Annual report queries
Staten Island Unit: Father Capodanno Blvd Extension/ Miller Field Parking	712,400	Borough of Staten Island pledges for road extension & additional parking lots. (approximate value: $500,000)	2 Concept Plan Reviews
Total	***10,934,950***	***Approx. $3,225,000***	***70***

* Based on CY 2002 visitor population statistics for Gateway NRA, rounded to the nearest thousand.
** Based on Jamaica Bay Unit employment statistics for summer 2002, rounded.
*** Based on Gateway NRA employment statistics for summer 2002, rounded.

INTRODUCTION

Scholarship Overview

One of five Proud Partner Transportation Scholarships for the 2002 award cycle was awarded to the author, Alixandra Demers, through the National Park Foundation. The scholar was matched with Gateway National Recreation Area, one of the seven national parks selected, which submitted a proposal also for the 2002 award cycle. The term of the scholarship was 8 months from August 26, 2002 to April 26, 2003. Based on performance and additional projects, the scholarship has been extended through June 2003.

Park Overview (add text discussing the 1979 General Mgmt Plan)

Gateway National Recreation Area (Gateway NRA) is part of the broader New York Harbor parks system that also includes Castle Clinton, Liberty Island, Ellis Island, and Governors Island. These parks are shown in Figure 1. Gateway NRA is the largest of the parks, with more than 26,000 acres of land and water within its borders. It was initially developed in 1972, 2002 being its 30th anniversary, from several land donations in both New York and New Jersey. The park is divided into three units for administrative and programming purposes: the Jamaica Bay Unit, the Staten Island Unit, and the Sandy Hook Unit. The Jamaica Bay Unit includes lands in both the boroughs of Brooklyn and Queens, New York. The Staten Island Unit is wholly located in Staten Island, NY and the Sandy Hook Unit is in New Jersey.

The projects discussed herein were primarily for the Jamaica Bay Unit (JBU). This unit encompasses approximately 10,000 acres of land and water. It is comprised of the following park areas grouped into 3 districts:

- Breezy Point District
  - Breezy Point – coastal fishing area and piping plover nesting area at the southern tip of the Rockaways.
  - Fort Tilden – a military installation that was actively used between World War I and the Vietnam War. It is now home to artists and performers while also offering a community garden, playing fields, trails, and beaches for fishing.
  - Jacob Riis Park – one of the prime beaches in the City with recreational facilities including pitch-and-putt golf (concessionaire), basketball, handball, and paddle ball courts, playgrounds, picnic areas, and the famous Jacob Riis Bathhouse.
  - Riis Landing – U.S. Coast Guard Station (small) Rockway is being turned over to Gateway NRA.
  - Silver Gull Beach Club Concessionaire – one of two private clubs open during the summer season offering beach facilities, eatery, and tennis.
  - Breezy Point Surf Club Concessionaire – one of two private clubs open during the summer season offering beach and swimming pool facilities, a variety of eateries, recreation including baseball, soccer, basketball, volleyball, bocce, and tennis, and more than 800 accommodations ranging from cabanas to cabanettes to bath cabins. Fifty-nine acres.

Figure 1 Gateway National Recreation Area, New York & New Jersey
Image by: National Park Service, August 2001

- North Shore District
  - Bergen Beach – a small beach on Jamaica Bay with tidal wetlands and mudflats.
  - Floyd Bennett Field – the city's first municipal airport that played a key role in World War II as a naval air station. The airfield includes playing fields, trails, the Historic Airplane Restoration Project, a remote control airplane flying field, educational facilities, one of the largest community gardens in the U.S., and a small research library.
  - Gateway Marina Concessionaire – marina in Dead Horse Bay.
  - Gateway Sports Concessionaire – batting cages, mini-golf, tennis courts, golf driving range west of Floyd Bennett Field.
  - Plumb Beach – a small drive-to / bike-to beach area with a local clientele.
  - Riding Academy Concessionaire – Horseback-riding facility east of Floyd Bennett Field.

- Wildlife Refuge District
  - The Jamaica Bay Wildlife Refuge – an important stop on the Atlantic Flyway for approximately three hundred types of birds including both salt and fresh water ponds and marshes.
  - Canarsie Pier – popular fishing spot with a restaurant on-site
  - Frank Charles Park – local park in the Howard Beach neighborhood of Queens, NY.
  - Hamilton Beach Park – local park in the Hamilton Beach neighborhood of Queens, NY.
  - Spring Creek – inter-tidal salt marshes and coastal grasslands in northern section of Jamaica Bay.

In Figure 2, the various areas that make up the Jamaica Bay Unit of Gateway NRA are labeled. As is evident from the mix of uses and disconnected nature of the park, Gateway NRA is not a typical national park. Instead, the individual park areas run the gamut from being local, neighborhood-type parks to city and state-type parks, all of which happen to be a part of the larger national recreation area. The different components are spread across two boroughs and two primary landmasses (Brooklyn/Queens and the Rockaways). As such, traveling to and between each of the park areas is a major concern of the Jamaica Bay Unit's administration.

Task Overview

SYNOPSIS OF TRANSPORTATION SCHOLAR'S GENERAL CHARGE

At the Jamaica Bay Unit of Gateway National Recreation Area, Alixandra Demers, a 2002 Proud Partner Transportation Scholar, is assisting the park staff through three major tasks as well as performing select park-wide actions. First, she is developing multi-modal traffic circulation plans and a set of wayfinding system guidelines for four areas of the park: Floyd Bennett Field, Jacob Riis Park, Fort Tilden, and Riis Landing to improve visitor safety and wayfinding. Second, she has created and is facilitating a Fleet Management Task Force to develop a fleet management plan and guide the downsizing and greening process of Jamaica Bay Unit's fleet while designing a fleet database capable of tracking procurement, maintenance, and assisting in fleet assignment. Third, she is exploring ways to improve visitor access to the Jamaica Bay Unit via transit and other modes (such as dollar vans or a cooperative agreement with a rental car chain), especially focusing on metropolitan regions that do not have good access to transit. Gateway-wide actions that Ms. Demers is involved in include, planning the delivery and placing into service 53 **TH!NK *neighbor*** electric vehicles donated by Ford, actively participating in the Gateway Green Team on the Transportation Management group to increase sustainability efforts throughout the park, and furthering the key Gateway NRA master plan component of instituting ferry service between the three park units (Jamaica Bay Unit, Staten Island Unit, and Sandy Hook Unit) and major New York City/ New Jersey ferry hubs.

OVERALL OBJECTIVES

- On-site Transportation Improvements
  - Circulation and signage inventories, evaluations, then plans for Floyd Bennett Field, Jacob Riis Park, Fort Tilden, and Riis Landing
- Off-site Transportation/Transit Improvements
  - Metro Area Access and Ferry System Implementation

- Fleet Assessment and Management
  - Jamaica Bay Unit fleet inventory, analysis, and management overhaul; Gateway-wide TH!NK *neighbor* vehicle donation and implementation; pursuit of alternative transportation vehicle donations

PROJECT STATISTICS

The largest strides were made on the Floyd Bennett Field Traffic Circulation Study project for the On-Site Transportation Improvements task. Not only was the sign inventory completed, but an extensive report written, several concepts developed, and sign designs for the front gate developed. Significant strides were also made on the Jamaica Bay Unit Fleet Management project with the fleet fully cataloged in a newly created database and work on a new management policy begun. The smallest strides were made on the Metro Area Access project for the Off-site Transportation/Transit Improvements task which does not require my transportation engineering and planning expertise as much as it requires a first-rate negotiator and deal-maker.

Figure 2 Jamaica Bay Unit, Gateway National Recreation Area, Brooklyn & Queens, New York
Image by: National Park Service, August 2001

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TASK A ON-SITE TRANSPORTATION IMPROVEMENTS

Overview

Existing and proposed sign plans are being developed for each site with the proposed plans presented for discussion before final plans and signage/striping design work can be done. Key is a revamping of the current interpretive, directional, informational, and regulatory signing throughout and between the parcels of the park for improved wayfinding and to meet the incoming NPS sign regulations as described in the UniGuide (scheduled release date: Fall 2003). In addition, at Floyd Bennett Field the current circulation patterns are not seen as ideal so an in-depth traffic circulation study was undertaken. Also at the airfield there are several construction projects in the works as well as some offices/ activities being relocated. In addition, ferry service will be a reality in the next year or two so new plans are of the utmost importance to make the whole shebang work. Lastly, special emergency plans must be developed to accommodate the U.S. Park Police, NYPD, Coast Guard, and Armed Forces Reserves as all have a presence in one or more parts of the Jamaica Bay Unit.

Table 2 Statuses of Sign Inventories & Sign Plans

Site	Data Collection	Data Entry	Verification	Existing Sign Plan	New Concepts	Sector Plans	Final Plans
Floyd Bennett Field	✓	✓	✓	✓	✓	Front Gate	
Fort Tilden	✓	✓		✓		Rules, Parking	
Jacob Riis Park	✓	✓		✓	✓		
Riis Landing	✓						

Obstacles

Although the UniGuide is becoming the National Park Service sign standard, Gateway NRA is ahead of the curve by having this Scholar develop new sign plans. Since the UniGuide software program will not be available until at least Fall 2003, the Scholar saw creating a menu-driven, fully searchable and sortable database as a crucial step for the sign inventory. Furthermore, she researched a final draft copy of the UniGuide text (931 pages!) to develop by hand the appropriate signs and sign plans instead of having access to a software program that is supposed to guide the designer through the process.

Budget cuts force noncompliance with the UniGuide because the multitude of colors and high quality sign materials are unaffordable in the short term. Therefore, the sign layouts generally conform to the

UniGuide but only brown and white are painted on thin sheet metal signs that the park will back with less-expensive plywood for added strength and durability.

Without GPS receiver equipment, nor GIS access, the Scholar wrote sign location descriptions instead of having latitude/longitude readings that could be linked to a map with GIS software.

Products Update

My office has become the depository for signage information. We have approximately 700 signs around the Jamaica Bay Unit (not including indoor signs!). Here is what I have available and what will be available:

(1) Sign Inventory Tracking Database - This is an MS Access 2000 database created by the author to record information about all existing traffic and information signs (location, size, colors, text and symbols, materials, and so forth) in addition to enabling entry of future signs and recording both procurement and maintenance of all signs. This database was created to speed data entry and retrieval until the new UniGuide sign software is released by the NPS (projected release date is Fall 2003). The Sign Inventory Tracking Database includes menus for navigation, data entry forms, a variety of reports including the NPS Form 10-47 (see next section for description), and queries to search the database. Photos of signs can be imported onto the forms as they are taken. At the time of this writing, the author has entered over 450 signs into the database for the Jamaica Bay Unit. A copy of the database, with all of the signs entered for viewing, is on the CD-ROM accompanying my report. People served: Jamaica Bay Unit staff, especially the District and Facilities Managers.

The database is menu-driven with most typical reports pre-designed. So for example, if the Unit wanted to transfer data from the sign database into Maximo (the new Facility Management Software System), then one could print a report with all relevant data and enter it into Maximo. Digital photos are available for a limited number of the signs, however, they make the database excessively large; therefore, the photos will be attached once it is decided who will operate it and where it will be housed once the author finishes her term.

(2) Existing Sign Plans of the three major areas of the park that I am tasked with inventorying for signs: Floyd Bennett Field, Jacob Riis Park, Fort Tilden/Riis Landing. The Asset ID numbers associated with each sign in the database are geo-referenced on a 24" x 36" plan for each area. Currently, Floyd Bennett Field is completed and both Engineering Technician Dominic Pontillo and I have copies of this FBF Existing Signage plan and the accompanying Sign Database output (on NPS Form 10-47). I created the Fort Tilden and Jacob Riis Park Existing Sign Plans.

(3) Proposed Sign Plans - Proposed sign plans to improve wayfinding were created for Floyd Bennett Field and Jacob Riis Park. After careful review of Fort Tilden, I came to the decision that it operates well as it is currently laid out, once the new parking signs are in place. Therefore, a proposed plan is not necessary, just upgrading to the UniGuide sign formats once the program and funding are available.

Project 1 Floyd Bennett Field Traffic Circulation Study

Overview

At the Jamaica Bay Unit, the unit with the most parcels, improved traffic circulation and safety has been designated a high priority. Currently, several parts of the park are undergoing big changes in terms of use and/or facility construction and rehabilitation. As such, current circulation plans are being reviewed to assess how they meet current needs and whether the plans can adapt to new and/or rearranged uses; revised circulation plans are being developed accordingly.

The primary focus at Floyd Bennett Field is improved signage and circulation for drivers and on-road bicyclists; pedestrian and bicycle facilities were briefly reviewed. Additionally, visitor safety was addressed in terms of driver speed management. The 1979 General Management Plan was reviewed carefully and its current relevance determined. Through field reconnaissance a sign inventory was conducted and current traffic patterns observed. After completion of an Existing Signage plan, alternative traffic circulation plans were sketched based on a series of goals. To improve transportation circulation throughout the airfield three primary goals were to be followed: designate activity zones (education, visitor, industrial), separate traffic routes based on both user type and zone, and provide clear wayfinding.

Concept plans, a report, and a presentation were developed for this project. The report describing the study starts with background information and a review of existing conditions, including a sign inventory. Additionally, the opportunities and constraints of the site are itemized. To assist the reader in understanding circulation plan design, the organizing principles of circulation pattern types, parking plans, and wayfinding systems are described and illustrated. In addition, site-specific recommendations are outlined for future bicycle facilities, transit, and security. Next, the various concept plans are compared against the goals and each other, then a preferred plan is recommended.

OBJECTIVES

- Inventory the traffic-related signs at Floyd Bennett Field.
- Catalog the inventoried signs and create an Existing Sign Plan.
- Meet with staff to determine key circulation plan and signing needs beyond those recognized through the inventory and field reconnaissance.
- Develop a variety of concept plans that are flexible depending upon the event and traffic generated, can adapt to new uses, assist in creating zones of activity, and separate visitor traffic from other types.
- In an accompanying report, discuss the history as it pertains to the park's planning of Floyd Bennett Field, the guiding principles for the proposed concept plans, compare and contrast the concept plans, and recommend a plan of action.
- Upon the park choosing a final concept plan, develop a Proposed Sign Plan.

Products Update

(1) Technical Memorandum: Review of Traffic Circulation Plans 1-A through 4-B – April 25, 2003: The JBU Superintendent (now General Superintendent of Gateway NRA) submitted 8 alternative concept plans of his own for consideration. This technical memo outlines my comments regarding his plans.

(2) Front Gate Sign Changes – May 2003: After the May meeting, I finalized the sign designs.

(3) Memo: Floyd Bennett Field Main Drive Recommendations – June 17, 2003: At the request of General Superintendent Garrett, I developed a series of quick fixes and longer term recommendations for the Main Drive into the airfield.

Milestones Updated

April 25, 2003	Tech Memo review of General Superintendent Garrett's concept plans.
May 21, 2003	Front Gate sign designs finalized.

June 17, 2003 Memo: Floyd Bennett Field Main Drive Recommendations.

Project 2 Fort Tilden Circulation Plan

Overview

Fort Tilden is located on the Rockaway Peninsula in Queens, New York. The fort was an active military site from World War I through the Vietnam War. Nowadays, the fort supports an artist and performer community, the Rockaway Artists Alliance, a community garden, and recreational opportunities including fishing, picnicking, bicycling, and organized sports (cricket, little league, rugby, soccer).

The current road system is Fort Tilden is a tight grid network at the developed western end and a sparse network through the delicate sand dunes, historic batteries, and beachfront. The beachfront and batteries are accessible via a pedestrian trail network.

Early concept plans for Fort Tilden and the adjoining park areas of Jacob Riis Park and Riis Landing were based on the study by the Regional Plan Association (RPA) entitled *A BEACH AND MUCH MORE.* In addition, the associated document by Jeff Zupan of the RPA, *TRANSPORTATION GAP STUDY – Opportunities for Better Access to Gateway National Recreation Area,* was most helpful in guiding next steps. Final concept plans will include some of these ideas as well as new ideas discovered while living at the park.

OBJECTIVE 1 – ORGANIZE PARKING (TEAM EFFORT)

The limited parking and the related traffic congestion are the biggest transportation issues at Fort Tilden. On a nice summer night, hundreds of people can be at this park site to participate in or watch one of the ball games, to watch a performance by RAA, to go on a Ranger-led activity, or simply to fish. To control the parking situation within Fort Tilden during peak activity times, parking permits have been issued in the past for a small fee. The objective was to review the parking lot rules and reorganize which permits were allowed in what lots during the various time periods, then create signs conveying this information and post them prior to the 2003 summer season. The group of decision-makers included:

- The Breezy Point District Manager and Rangers with first-hand knowledge of the parking situation.
- The U.S. Park Police for their input on what can be enforceable and what sign messages currently cause their officers confusion.
- The Jamaica Bay Unit Assistant Superintendents, and
- The Transportation Scholar for sign placement and design expertise.

New permitting rules were established including the elimination of the "Activity Permit" since it seemed to cause the most confusion and non-compliance without having a clear purpose. Then new parking lot rules (including what permits were allowed where and when) were established. Moreover, it was decided that Shore Road, the primary East-West route along the beach was to be closed to vehicles this summer to reduce illegal parking and beach activity. From the new regulations, the Scholar researched the UniGuide then designed new parking lot signs and new park regulation signs with input from the BPD Manager. After minor design modifications to meet tightened budget constraints, the signs are being ordered from a local vendor.

OBJECTIVE 2 – SIGN INVENTORY & PROPOSED SIGN PLAN

All traffic, directional, and informational signs relating to finding a destination in Fort Tilden were to be inventoried and then evaluated for correctness, clarity of message, and location. A new sign plan was to be proposed to complete this objective.

Over 2 days, 144 signs were recorded during field reconnaissance of Fort Tilden. These existing signs are currently being entered into the Sign Inventory Tracking Database for record-keeping and analysis. By the end of my extended term, all existing signs will be in the database and marked on an existing conditions sign plan.

After careful review of Fort Tilden, I came to the decision that it operates well as it is currently laid out, once the new parking signs are in place. Therefore, a proposed plan is not necessary, just upgrading to the UniGuide sign formats once the program and funding are available.

Products Update

(1) Parking lot and general park regulation sign designs and locations list – April 2003: Sign designs researched and created by the Scholar modifying the UniGuide sign designs to meet the tight budget of the Breezy Point District (limited colors and materials). The sign designs were reviewed and modified by the BPD Manager and the Asst. Superintendent of Operations. I finalized the parking lot and pedestrian dune crossing signs.

(2) Sign Inventory Field Notes: Two Fort Tilden plans that I marked up during the process of field reconnaissance to note all sign locations, text, colors, and orientations.

(3) Existing Sign Plan: Completed June 13, 2003. Available in Appendix B.

Milestones Update

April 28, 2003	Parking & General Regulation signs finalized by Asst. Sup. Dave Avrin, BPD Manager Romero, and Scholar.
June 5, 2003	Data entry of all Fort Tilden signs completed.
June 13, 2003	Existing Sign Plan completed.

Project 3 Jacob Riis Park Circulation Plan

Overview

Jacob Riis Park is located in the Rockaways adjacent to Fort Tilden and across the Jamaica Bay from Floyd Bennett Field. It offers one of the largest beaches within New York City's limits, over 1 mile in length, with 14 lifeguarded swimming bays and a variety of recreational opportunities from pitch & putt golf to ball fields to hand ball courts. Jacob Riis Park is accessible by car, public bus, walking, and bicycling. Jacob Riis Park is a free park except for parking fees (Memorial Day to Labor Day) and the pitch & putt golf concession.

OBJECTIVE 1 – SIGN INVENTORY

Over approximately 4 days I drove and walked all of Jacob Riis Park to record more than 180 signs related to traffic and wayfinding on the roads, walkways, parking lot, beach, and boardwalk. It took about another full week to enter all the Jacob Riis Park signs data into the database. The existing sign plan will be created as soon as copies of the site plans are issued to me. During the field inventory, I also made

notes regarding where signs were needed and what information they should convey. Moreover, the best routes for people to reach an activity were mapped and the condition of some travel facilities noted. These notes become the basis for recommending changes in Objectives 2 and 3.

OBJECTIVE 2 – PROPOSED SIGN PLAN – PEDESTRIAN FOCUS

Jacob Riis Park is a large park, and with basically one parking lot, people are expected to leave their cars and navigate the park on foot. However, the current signage is inadequate. Most destinations are marked, however, besides the gigantic "To the beach" signs in the parking lot (approximately 10' x 8') there really are not signs guiding pedestrians to their activities. Therefore, the objective is to propose a sign plan that improves the ability of newcomers to find their way around the park. At this time, the proposed plan is currently under design with a tentative completion date at the end of June 2003.

OBJECTIVE 3 – ORGANIZE THE PARKING LOT, CONCEPTS FOR DECREASING ITS SIZE

Have you ever stood in the center of a sea of pavement equal in size to 75 football fields? One of the biggest traffic concerns at Jacob Riis Park is the enormous 9,000-space parking lot. It has rarely filled up with vehicles since the park's heyday in the 1950's, leaving lots of open space for drivers to roam – with few obstructions. Nowadays, the busiest weekends at the beach see upwards of 4,000 vehicles parked in the lot. Therefore, one of the goals for studying Jacob Riis Park was reducing the pavement area and organizing the lot so people can find and then park nearest their destinations.

Aside: A reduction in pavement area also has a considerable positive impact on the surrounding environment by reducing "heat islands" or areas of land that collect more heat that natural lands by virtue of their material make-up, here asphalt and concrete collect more heat than grasslands.

To this end, I have observed the parking lot's operations during the off-season to determine where regular visitors find it most convenient to park for various activities. It is clear that there are 4 primary parking zones: fishermen at the north side, golfers at the west end, and beachgoers in one of two south sections. Therefore, I offered one humorous sign plan and one serious design that is part of my proposed sign plan that organized the traffic and parking spaces while increasing green space (signs, striping, barriers/islands, removal of pavement). The existing and proposed sign plans can be viewed in Appendix B.

Products Update

(1) Existing Sign Plan. Full plan showing all signs inventoried and entered into the database. June 13, 2003

(2) Proposed Sign Plan. Full plan showing proposed ballfields to reduce the parking lot pavement and proposed signs to increase safety and wayfinding. June 19, 2003

(3) Jacob Riis Park Traffic Circulation Study. Report accompanying the proposed sign plan. June 20, 2003

Milestones

June 13, 2003	Existing Sign Plan completed.
June 19, 2003	Proposed Sign Plan completed.
June 20, 2003	Jacob Riis Park Traffic Circulation Study completed.

Project 4 Riis Landing Circulation Plan

Overview

Riis Landing is a new park site that is being transformed from a U.S. Coast Guard station to a ferry hub. In the park's General Management Plan, ferry service was a key component of the transportation system. Riis Landing is on the bay side of the Rockaways directly across Rockaway Point Boulevard from Fort Tilden. The parcel is fully developed with several buildings, a main parking lot for approximately 100 cars, and boat docking facilities. There are no undisturbed, natural lands at Riis Landing. This summer, boat excursion trips will continue and ferry service has begun between Riis Landing and Battery Park, Manhattan for both park visitors and commuters. In the near future, a new floating dock will be constructed. Further in the future, one of the buildings may be converted to a restaurant while another may become a small bed and breakfast conference center to create a dynamic destination.

OBJECTIVE: CREATE EXISTING AND PROPOSED SIGN PLANS

All traffic, directional, and informational signs relating to finding a destination in Riis Landing was inventoried and then evaluated for correctness, clarity of message, and location. The Federal Lands Highway has scoped a project to research the best shuttle route from the ferry at Riis Landing. Since this project is fully scoped and could significantly change how Riis Landing should be signed, the task of a proposed sign plan is being transferred to FLH.

TASK B OFF-SITE TRANSPORTATION/TRANSIT IMPROVEMENTS

Project 5 Metro Area Access

No further work has been done on this project. It will be the primary focus of the upcoming Scholar.

Project 6 Bus Shelter Installations at Floyd Bennett Field

No further work has been done on this project. The upcoming Scholar will continue negotiations.

Project 7 Ferry System Implementation

Overview

In the 1979 General Management Plan for Gateway NRA, alternative transportation systems, including an extensive ferry system linking the major park areas by water, were important components of the plan. Until several years ago, ferries were still just an idea. Then service between Manhattan and Sandy Hook began in the summer of 1997 and has continued each summer since. It was initially subsidized by the Statue of Liberty/Ellis Island ferries, but it is now self-supporting. Recently, two studies were funded by the NPS to examine the feasibility and impediments to creating a broader system[1] and then developing an

[1] US Department of Transportation Research and Special Programs Administration (Volpe National Transportation Systems Center). *National Parks of New York Harbor Waterborne Transportation Study*. Draft Final Report, April 10, 2001.

implementation strategy.[2] Now the one-link ferry system will be expanded to multiple links over the next several years by a variety of agencies and concessionaires.

(1) Riis Landing – Battery Park. To improve connectivity between the park units and Manhattan, the National Park Service is implementing ferry service at Riis Landing. I am assisting in the design reviews and will work to incorporate this project into the broader JBU circulation plans.

During the past two summer seasons, boat excursions were run from Riis Landing. These excursions were quite popular with over 2,000 participants each summer. This coming year, ferry service between Riis Landing and Battery Park is being offered as a pilot project during the summer. The rehabilitation of Riis Landing is being funded in part by New York State ferry discretionary funds. The monies will pay for the construction of a floating dock and major repairs to the seawall/ breakwater. To create a self-supporting service, commuters will be encouraged to ride the Riis Landing-Battery Park ferries in addition to park visitors, both for a fee.

Products Update

Ferry service began! See the photos and articles in the appendix.

Milestones Update

June 14, 2003 Ferry service began between Riis Landing & Manhattan

TASK C FLEET ASSESSMENT AND MANAGEMENT

Project 8 Jamaica Bay Unit Fleet Management

Overview

Fleet Assessment and Management - Jamaica Bay Unit-specific, possibly to be expanded parkwide. My first week here I had to review a report by an outside consultant, itemize findings and questions, then participate in a meeting to have the park's fleet greening needs properly addressed. As follow-up and expansion upon that initial task, the JBU Superintendent requested I create and facilitate a Fleet Management Task Force for the Jamaica Bay Unit of Gateway NRA to improve how our fleet is assigned, operated, and maintained. The Unit's goal is to reduce our overall fleet size and improve efficiency while greening it. This section is includes a write-up of the work completed in May and June 2003.

OBJECTIVE 3 – DESIGN A FLEET MANAGEMENT SYSTEM

The park currently does not have a fleet management system and based on the results of the Existing Conditions report, it needs one to reign in costs, improve efficient vehicle use through changes in vehicle assignments, and balance the fleet across vehicles' ages and conditions. Armed with the knowledge of the physical and financial status of the Unit's fleet, our Task Force deviated from the original Task Directive to focus on the fleet's management as a whole, or rather lack thereof, instead of composing a series of unrelated Standard Operating Procedures.

[2] Norris & Norris Associates. *NPS Gateway Parks of New York Harbor: Integrated Transportation Strategy and Implementation Plan*. Draft Final Report, October 2002.

Similar to the vehicle data collection, the Task Force agreed upon interviewing each park office that handles one or more vehicle-related function – from procurement to maintenance to driver responsibilities. Based on the interviews currently underway and the research by the group on fleet management best practices (by other agencies, municipalities, and private companies), the Task Force is creating a Fleet Management Manual that will include new and revised Standard Operating Procedures (SOPs) for the Jamaica Bay Unit. The manual has six areas of focus: (1) Procurement, (2) Property Management, (3) Safety, (4) Assignee & Operator Responsibilities, (5) Maintenance, and (6) Replacement & Disposal. Greening goals are to be included where appropriate within each focus area. In addition to new guidelines, the group is recommending the creation of a Fleet Manager position to oversee all fleet operations instead of 5 different offices doing bits and pieces of work without a cohesive management framework and no single person knowing the status of the entire fleet at any given time. The manual is planned to provide a position description for a Fleet Manager. As discussed below in Products, I completed the 113-page draft manual with a detailed outline, flowcharts, headings, and some text. And after discussions with the Staten Island Unit, it seems the database and manual are of interest for possible expansion to the rest of the Park.

Products Update

(3) Fleet Management Database: An extensive database that is able to collect both static (for example, vendor purchased from, VIN #, make, model, fuel type) and dynamic (for example, fuel purchases, mileage accrual, and service histories) data about each vehicle in the fleet. I created this database in MS Access from scratch. It is comprised of: 4 menus ("switchboards") for navigating new users, 20 tables of stored data, 22 forms for data entry, 21 queries for searches/ sorts/ calculations, 19 reports to display the queried information, and 10 macros to automate tasks. This database has been further enhanced since April 2003 and careful directions mapping out the next steps in design have been left for the next scholar to follow for further expansion. The database has been turned over to the Fleet Management Task Force. Property Management Specialist Eileen Fitzgerald will be entering financial, mileage, and fueling data throughout the Summer. Then the upcoming scholar can enhance the database in the Fall.

(11) Fleet Management Manual of Standard Operating Procedures:

Draft Manual with an extended outline was completed June 12, 2003. The 113-page draft manual is organized into 12 sections that focus on the various elements of fleet management. One of the primary goals of the manual is to clearly show the roles of all personnel in fleet management and reduce work duplication. To that end, the manual includes a management matrix showing each office's vehicle responsibilities, task responsibilities, and decision-maker responsibilities. In addition, most sections include one or more flowcharts of the processes involved in fleet management (eg. Vehicle Disposal, Fleet Upkeep).

Milestones Update

May 22, 2003	Site Visit 2 of 5: Task Force Site Visit with Maintenance Office. Questions answered as to Office's fleet involvement.
June 12, 2003	Fleet Management Manual of Standard Operating Procedures – draft manual is completed. Distributed to the Fleet Management Task Force.

Anecdote

At the start of June, the head of the Gateway NRA Property Management Office requested a printout from the Fleet Management Database of JBU Interior-owned vehicle details because her office was undergoing an audit and their data was incomplete.

Project 9 TH!NK *neighbor* Vehicle Delivery & Implementation

Overview

Gateway NRA is one of the few national parks that Ford Motor Company has donated TH!NK *neighbor* vehicles to through the National Park Foundation's Proud Partner Program. Ford Motor Company donated a total of 600 of these nifty Zero Emissions Vehicles (ZEVs) and Gateway received 53, approximately 10 percent. Briefly, an update of this project is now presented.

As of June 9, 2003, all Gateway NRA units have distributed and are operating their TH!NK neighbor vehicles. Eleven vehicles have not been taking a charge so negotiations have begun with the local Ford dealer. Operator log sheets have been distributed to each unit for the drivers to record trip dates, mileages, and purposes for the 6-month and 12-month NPF assessments.

Obstacles

- In June 2003, each of the three Park units discovered that 2 to 4 of their TH!NK vehicles would not take a charge and therefore would not operate. It was unclear as to why the JBU vehicles were not charging up since they were driven, charged, master switched off, and then stored. I relayed the Ford dealer contact information to Calvin Clardy at Jamaica Bay Unit and Dena Saslaw for the Staten Island Unit. Each will be calling and working with Manhattan Ford directly for their respective vehicles.
- Internet service has been down at Floyd Bennett Field for 2 weeks, so collection of the logbook data has not yet been possible.
- Manhattan Ford has been uncooperative, unwilling to service the vehicles. Discussions between Chris Soller and Vicki Northrup of the TH!NK Mobility group are currently underway to resolve the difficulties and obtain service for the 11 vehicles.

Products

This project has been the one with the most visible products. The vehicles were delivered! The vehicles are in operation at all units! New products:

(6) TH!NK *neighbor* vehicle log book form created – April 2003: To comply with the data needs of the National Park Foundation at both the 6-month and 12-month assessments while also meeting the fleet management goal of tracking vehicle use, I created a form for TH!NK vehicle drivers to log their trips.

Milestones

April 2003	Trip log forms created.
May 2003	Trip log forms distributed to all units.
June 9, 2003	All units are operating their TH!NKs!

June 2003 Each unit cannot charge about 4 vehicles. Negotiations underway with Manhattan Ford by each unit's TH!NK coordinator. Now Chris Soller and Vicki Northrup are negotiating.

TASK D SMALLER PROJECTS (NOT PROGRAMMED AT OUTSET)

For me, working for eight months at an agency means getting involved with the personnel and assisting in a variety of ongoing and new projects that have a full or tangential relation to my current project work and/or my areas of expertise. This scholarship was no exception. Furthermore, as I worked, I came up with additional project ideas for future scholars or myself to pursue. Since the projects listed below were not part of the original scope of work, they are only briefly described herein. This section includes only projects that have been worked on during the extended scholarship term.

Project 10 Federal Lands Highway Project Scoping Meetings & Site Visit

No further work on this project. It was already complete.

Project 11 Other Vehicle Donations – Ford Hybrid SUVs, Tricycles

No further work on this project. The upcoming Scholar will be working with the JBU Green Team to pursue possible donations building off the current work accomplished.

Project 12 2003 Proud Partner Transportation Interpreter Program Orientation & Workshop – Presenter

I agreed to expose incoming 2003 Transportation Interpreters to the alternative transportation projects ongoing at Gateway National Recreation Area and give them a taste of what a transportation engineer and planner accomplishes on a daily basis in and out of a national park setting. When addressing the group, I hope to show the Transportation Interpreters how their upcoming work and input could further the transportation goals of national parks.

After holding discussions with Gerrard Jolly of the National Park Foundation to feel out the audience, I decided to broaden the scope of the presentation to include a general overview of alternative transportation modes and systems as well as present what each of the 2002 Transportation Scholars has been working on to give the Transportation Interpreters a flavor for the variety of transportation projects ongoing in the parks. I created several slides discussing alternative transportation and general characteristics of the Transportation Scholars. Then I talked with each of the other four Transportation Scholars to learn about their work and three of them sent me presentations that they had previously created for public meetings of different types. I selected between 5 and 10 slides from each of their presentations to mount on posters and add to my slide presentation. I tried to locate some information on the fourth Transportation Scholar's project and created a few slides based on my findings. The final presentation included approximately 55 slides and 12 posters. I gave the presentation on Wednesday, May 28, 2003 at the 2003 Proud Partner Transportation Interpreter Program Orientation & Workshop. It went over very well. The best, and most uplifting, comment I received from the Chief of Interpretation at Yosemite National Park, she congratulated me on my presentation and said I had the one thing that she could not teach – enthusiasm for my subject. That made my day! A copy of the presentation is included in Appendix D while photos of the posters are in Appendix B.

Project 13 Civil & Transportation Engineering Projects for the Jamaica Bay Unit

Product. In June 2003, I wrote the Scope of Work for the upcoming scholar to pursue during the last 4 months of my 6-month scholarship term extension. John Rudolph will be assisting the Jamaica Bay Unit of Gateway NRA from September to December 2003.

Project 14 Active Participation in the Gateway Green Team and the Jamaica Bay Unit Green Team

Gateway NRA is striving to be a greening and sustainability innovator through all actions – from recycling to pollution control to facilities management. To guide greening activities and education, a Gateway Green Team was formed. I have actively participated in two projects as a member of the team, creation of the Green Plan and the Climate Friendly Parks Initiative. I worked on the latter in May.

Overview – The Climate Friendly Parks Initiative (Team Effort)

The National Park Service is working jointly with the Environmental Protection Agency (EPA) to quantify and then track greenhouse gases (GHGs) to reduce those produced within and by national parks. Gateway NRA is the first pilot park to undergo the process.

OBJECTIVE 1 – QUANTIFYING EMISSIONS

In February 2003, Gateway was issued an Emissions Inventory workbook of 9 spreadsheets by ICF Consulting, Inc. (the analyst subcontracting to the EPA) to complete within approximately 10 days. I was the Point Person for the Jamaica Bay Unit, contacting and coordinating data collection by 14 personnel in the unit, then compiling and transmitting the emissions data back to the Gateway Green Team.

Aside: Completing the CFPI emissions inventory was an instance the Sign Inventory Tracking Database proved useful. By printing one of the underlying tables (RouteID), I instantly had a list of all roads in the 3 major areas of the unit that yielded most of the data necessary for the Mobile – Highway Vehicles spreadsheet, General Highway section. My inventory notes filled in the rest of the highway data.

Aside: Completing the CFPI emissions inventory was the first instance the new Fleet Management Database proved invaluable. It saved the unit a lot of time because it took only a one query to yield the data necessary for the Mobile – Highway Vehicles spreadsheet, Park-Owned Vehicles section.

OBJECTIVE 2 – WORKSHOP PLANNING

The emissions inventory was for the quantifying GHGs stage of the process. To move into the tracking and reducing stage, the process calls for hosting a workshop to education and train personnel. For this stage, I am on the Organizing Committee planning the 2-day workshop (June 4-5, 2003) and acting as a reviewer of various report outlines.

Project 15 Archery Shade Structure Design

On Floyd Bennett Field, there is a small archery range on the eastern side. Currently at the range, there are targets, one or two picnic tables, and a portable toilet. It is an open area surrounded by brush offering little or no shade or wind protection. Therefore, I have been asked to design a shade structure from which

the archers could shoot; the cost of the structure is estimated as $10,000. To this end, I have researched (online) shooting ranges and shade structures while also observing the archers at the range. I rough-sketched a structure, and then created a full and original design in AutoCAD. In addition, I specked out a materials list. Both were completed and submitted to the North Shore District Supervisor on June 4, 2003.

The structure will be made out of a combination of wood (for structural members) and recycled materials (for all other members). The structure is 12 feet wide by 48 feet long and approximately 15 feet high. It is essentially a deck tailored to the needs of archers with my own roof design added on to provide diffused sunlight. The structure includes 6 shooting stations, each with a mounted quiver to hold an archer's arrows and small front and rear benches for sitting and/or stacking supplies. It is accessible by a small staircase on one side and an ADA-compliant ramp on the opposite side. In the future, ramps could be positioned at each station for direct access to the targets. Both the design and materials list are included in Appendix B.

I have been fortunate to receive many thanks and compliments on the design from North Shore District Supervisor Pete McCarthy and Engineering Technician Dominic Pontillo. Eng. Tech. Pontillo is now negotiating with the resident fire department to construct the structure, as a payment of in-kind services for use of the Park's property for some of their exercises.

Project 16 Program Information & Visitor Statistics Database

The JBU Office of Interpretation must compile monthly statistics from all park sites and generate both monthly and annual reports detailing the types of programs that were offered (i.e. formal interpretation, demonstrations/performances, special events), how many visitors attended each program, the number of staff running each program, and how many hours they worked, translating that into program costs. Park Ranger Kathy Krause is responsible for this task. This is a perfect job to automate with a database to reduce errors and missing data while reducing paper by distributing the database to the personnel compiling the data instead of them writing events down and then sending a pile of paper to Ranger Krause to organize and summarize. At the request of Ranger Krause, once a week from January to March 2003 and similarly in June, I worked closely with Ranger Krause to design a small database that compiles information on programs given by the park's rangers, volunteers, and outside groups. We jointly agreed on a design, I created the database and trained Ranger Krause on operating a database in MS Access.

The database has one main data entry form with lots of pop-ups and definitions that show up during data entry; one park site has a form tailored to its school group-oriented needs. There are approximately five reports that I created for each park site to print out as desired for a given date range. Each report sorts and/or counts the data in different manners depending on purpose. Moreover, to ease the monthly transfer of data from each site to the master, I created an automated data query and export procedure.

In March, we held a meeting to show the appropriate unit personnel the database – discussing its purpose, how to use it, and their new procedures. This database is currently distributed to five sites and in operation. Ranger Krause operates the master database. In June 2003, we enhanced the master database to perform most of the annual report's calculations. I transferred the enhancements onto the Ecology Village copy of the database since that office also creates an annual report. I additionally trained Ranger Krause on the use of Excel to sort and calculate subtotals to yield other necessary numbers. A sample of the database is in Appendix D.

Project 17 Father Capodanno Boulevard Extension & Miller Field Parking

The Borough of Staten Island has been trying to extend Father Capodanno Boulevard southward for over 15 years in the hopes of alleviating mounting traffic congestion problems on a parallel road, Hylan Boulevard. Father Capodanno Boulevard currently terminates at the northern edge of Miller Field, a highly used recreational facility of Gateway NRA's Staten Island Unit. This Park location has 46 playing fields (baseball, basketball, cricket, football, soccer, and softball) and limited parking. The Borough is offering the Park $500,000 to construct an access road from Father Capodanno Boulevard to the loop road in Miller Field and construct one parking lot for approximately 60 vehicles. Needless to say, bringing more traffic through Miller Field is a contentious issue since it directly conflicts with the mission of the Park. The Borough has presented 3 design alternatives to the Staten Island Unit and they have been trying to develop a workable solution.

The Superintendent of the Staten Island Unit, Shirley McKinney, requested of my supervisor that I lend my traffic engineering expertise to this project in her unit. At the end of May, I was asked to review and comment upon three alternatives for an access road and parking lot at Miller Field. I toured the site while meeting with Site Coordinator William Tate to learn the history of the project, the needs of Miller Field, and recognize the traffic engineering issues involved. In addition, I toured the surrounding roadways. Since I could not attend the next meeting between the Staten Island Unit and the Borough, I wrote a 7-page letter detailing the issues, reviewing the alternatives presented, and offering two additional alternatives that, based on my professional experience, would be safer and more beneficial to the Park in the long-term than any of the alternatives presented to me. A week later, I was presented with one more alternative to review. I examined the alternative, discussed it with Management Analyst Angel Nazario, and bulleted some brief comments that I faxed over to him for a follow-up meeting. This project was started May 13, 2003 and finished June 5, 2003

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APPENDICES

Appendix A Updated Timelines of Major Projects

Appendix B New Photos & Archery Shade Structure Design

Appendix C Weekly Progress Reports

Appendix D Project Reports & Products

Appendix E Press Releases & Media Coverage of Events

Appendices A & B typically included with report text. All other appendices are available upon request.